

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:
Bruce G. Woodward, et al

Serial No.: 10/708,920

Filed: March 31, 2004

For: Hierarchical Entitlement System with
Integrated Inheritance and Limit Checks

Examiner: Madamba, Clifford B.

Art Unit: 3696

APPEAL BRIEF

Mail Stop Appeal
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

BRIEF ON BEHALF OF BRUCE G. WOODWARD, ET AL

This is an appeal from the Final Rejection mailed August 25, 2009, in which currently-pending claims 1-22 and 25-45 stand finally rejected. Appellant filed a Notice of Appeal on December 30, 2009. This brief is submitted electronically in support of Appellant's appeal.

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1. REAL PARTY IN INTEREST

The real party in interest is assignee Sybase, Inc. located at One Sybase Drive, Dublin, CA 94568.

2. RELATED APPEALS AND INTERFERENCES

There are no appeals or interferences known to Appellant, the Appellant's legal representative, or assignee which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

3. STATUS OF CLAIMS

The status of all claims in the proceeding is as follows:

Rejected: Claims 1-22, 25-45

Allowed or Confirmed: None

Withdrawn: None

Objected to: None

Canceled: Claims 23, 24

Identification of claims that are being appealed: Claims 1-22, 25-45

An appendix setting forth the claims involved in the appeal is included as Section 8 of this brief.

4. STATUS OF AMENDMENTS

Several prior Amendments and Requests for Reconsideration as well as an Appeal Brief have been filed in this case. Appellant filed a Response / Request for Reconsideration on February 1, 2008 in response to an initial non-final Office Action dated November 5, 2007. In response to the Examiner's (first) final rejection dated May 8, 2008 finally rejecting Appellant's claims, Appellant filed a Notice of Appeal. Subsequently, Appellant filed an Amendment After Appeal on October 7, 2008 canceling claim 23 in response to the Examiner's objection to that claim. On October 10, 2008 Appellant filed an Appeal Brief to appeal the Examiner's (first) final rejection. In response to Appellant's Appeal Brief, the Examiner filed an Examiner's Answer dated January 7, 2009 that added new ground(s) of rejection. In response, Appellant elected to

reopen prosecution under 37 CFR Sections 41.39(b) and 1.111 and filed an Amendment / Response dated March 9, 2009. After a telephone interview with the Examiner, Appellant filed a Supplemental Amendment dated April 14, 2009. Subsequently, the Examiner issued a (second) Final Rejection (hereinafter the "Final Rejection") of Appellant's claims dated August 25, 2009. Appellant filed a Request for Reconsideration after the Final Rejection on October 23, 2009, requesting that the Examiner reconsider the Final Rejection. However, in an Advisory Action mailed on November 3, 2009, the Examiner refused to reconsider the Final Rejection. Appellant has chosen to forego making other amendments to the claims after the date of the Final Rejection as it is believed that further amendments to the claims are not warranted in view of the art.

5. SUMMARY OF CLAIMED SUBJECT MATTER

Appellant asserts that the art rejections herein fail to teach or suggest all of the claim limitations of Appellant's claimed invention, where the claimed invention is set forth in the embodiment in **independent claim 1**: A computer-implemented method for specifying and enforcing entitlements for performance of financial transactions (see e.g., Appellant's specification, paragraph [0013], paragraphs [0043]-[0044], paragraphs [0055]-[0056], paragraph [0059]; also see generally, e.g., Fig. 1, Fig. 2, Fig. 3; Figs. 5A-B), the method comprising: in a computer system having at least a processor and memory (see e.g., Appellant's specification paragraphs [0032]-[0038], paragraph [0042]; also see, e.g., Fig. 1, Fig. 2) providing a hierarchical entitlement structure with inheritance for specifying entitlements for performing financial transactions (see e.g., Appellant's specification, paragraph [0013], paragraph [0045], paragraph [0063], paragraphs [0066]-[0068], paragraph [0073], paragraph [0079], paragraph [0112]; also see, e.g., Fig. 4; Fig. 5A at 501-503), receiving user input for defining a plurality of entitlement groups of said hierarchical entitlement structure (see e.g., Appellant's specification, paragraph [0013], paragraphs [0046]-[0047], paragraph [0049], paragraph [0067], paragraph [0073], paragraphs [0079]-[0080], paragraph [0153]; also see, e.g., Fig. 4; Fig. 5A at 501-502), wherein each entitlement group has specified permissions to perform financial transactions, limits on performance of said financial transactions, and membership of each user (see e.g., Appellant's specification, paragraph [0013], paragraph [0044],

paragraphs [0046]-[0047], paragraph [0049], paragraphs [0066]-[0068], paragraph [0073], paragraph [0081];also see, e.g., Fig. 4; Fig. 5A at 503), in response to a particular user request to perform a financial transaction at runtime, identifying the particular user's membership in a certain entitlement group (see e.g., Appellant's specification, paragraph [0013], paragraphs [0046]-[0047], paragraph [0082]; also see, e.g., Fig. 5A at 504-505), and determining whether to allow the particular user to perform the financial transaction based on permissions and limits of said hierarchical entitlement structure applicable to the particular user's performance of the financial transaction (see e.g., Appellant's specification, paragraph [0013], paragraphs [0046]-[0047], paragraphs [0083]-[0085]; also see, e.g., Figs. 5A-B at 506-511).

Appellant additionally asserts that the art rejections herein fail to teach or suggest all of the claim limitations of Appellant claimed invention, where the claimed invention is set forth in the embodiment in **independent claim 25**: A system for specifying and enforcing entitlements for performance of financial transactions (see e.g., Appellant's specification, paragraph [0013], paragraphs [0043]-[0044], paragraph [0055], paragraphs [0059]-[0061]; also see, e.g., Fig. 3; Figs. 5A-B), the system comprising: a computer having at least a processor and memory (see e.g., Appellant's specification paragraphs [0032]-[0038], paragraph [0042]; also see, e.g., Fig. 1, Fig. 2), a hierarchical entitlement structure with inheritance for specifying entitlements for performing financial transactions (see e.g., Appellant's specification, paragraph [0013], paragraph [0045], paragraph [0063], paragraphs [0066]-[0068], paragraph [0073], paragraph [0079], paragraph [0112]; also see, e.g., Fig. 4; Fig. 5A at 501-503), a user input module for specifying a plurality of entitlement groups of said hierarchical entitlement structure (see e.g., Appellant's specification, paragraph [0013], paragraphs [0046]-[0047], paragraph [0049], paragraphs [0058]-[0059], paragraph [0067], paragraph [0073], paragraphs [0079]-[0080], paragraph [0153]; see generally, e.g., Fig. 3; also see, e.g., Fig. 4; Fig. 5A at 501-502), wherein each entitlement group has specified permissions to perform financial transactions, limits on performance of said financial transactions, and user membership (see e.g., Appellant's specification, paragraph [0013], paragraph [0044], paragraphs [0046]-[0047], paragraph [0049], paragraphs [0066]-[0068], paragraph [0073], paragraph [0081];also see, e.g., Fig. 4; Fig. 5A at 503), and an enforcement

module for determining, in response to a particular user's request to perform a given financial transaction at runtime, whether to allow the particular user to perform the financial transaction based on permissions and limits of said hierarchical entitlement structure applicable to the entitlement group of which the particular user is a member (see e.g., Appellant's specification, paragraph [0013], paragraphs [0046]-[0047], paragraphs [0059]-[0061], paragraphs [0083]-[0085]; see generally, Fig. 3; also see, e.g., Figs. 5A-B at 506-511).

Appellant also asserts that the art rejections herein fail to teach or suggest all of the claim limitations of Appellant claimed invention, where the claimed invention is set forth in the embodiment in **independent claim 45**: A method for defining and enforcing permissions and limits on performance of financial transactions in a banking system (see e.g., Appellant's specification, paragraph [0013], paragraphs [0043]-[0044], paragraphs [0055]-[0056], paragraph [0059]; also see generally, e.g., Fig. 1, Fig. 2, Fig. 3; Figs. 5A-B), the method comprising: in a banking system (see e.g., Appellant's specification, paragraphs [0055]-[0056], paragraphs [0059]-[0061]; see generally, e.g., Fig. 3) implemented in a computer system having at least a processor and memory (see e.g., Appellant's specification paragraphs [0032]-[0038], paragraph [0042]; also see, e.g., Fig. 1, Fig. 2), receiving user input defining a plurality of entitlement groups (see e.g., Appellant's specification, paragraph [0013], paragraphs [0046]-[0047], paragraph [0049], paragraph [0067], paragraph [0073], paragraphs [0079]-[0080], paragraph [0153]; also see, e.g., Fig. 4; Fig. 5A at 501-502), wherein each entitlement group has specified users, permissions to perform financial transactions and limits on performance said financial transactions (see e.g., Appellant's specification, paragraph [0013], paragraph [0044], paragraphs [0046]-[0047], paragraph [0049], paragraphs [0066]-[0068], paragraph [0073], paragraph [0081]; also see, e.g., Fig. 5A at 503), organizing said plurality of entitlement groups into hierarchical structure with inheritance specifying permissions and limits for performing financial transactions (see e.g., Appellant's specification, paragraph [0013], paragraph [0045], paragraph [0063], paragraphs [0066]-[0068], paragraph [0073], paragraph [0079], paragraph [0112]; also see, e.g., Fig. 4; Fig. 5A at 501-503), in response to a particular user request to perform a financial transaction in the banking system at runtime, identifying the particular user's membership in a certain entitlement

group (see e.g., Appellant's specification, paragraph [0013], paragraph [0046], paragraph [0063], paragraphs [0066]-[0068], paragraph [0082]; also see, e.g., Fig. 5A at 504-505), and determining whether to allow the particular user to perform the financial transaction based on permissions and limits of said hierarchical entitlement structure applicable to the particular user's performance of the financial transaction (see e.g., Appellant's specification, paragraph [0013], paragraphs [0046]-[0047], paragraphs [0059]-[0061], paragraphs [0083]-[0085]; see generally, Fig. 3; also see, e.g., Figs. 5A-B at 506-511).

Appellant further asserts that the art rejections herein fail to teach or suggest all of the claim limitations of Appellant's **dependent claims 12 and 36**, with claim limitations of defining limits applying collectively to a particular entitlement group and children entitlement groups of said particular entitlement group in said hierarchical entitlement structure (see e.g., Appellant's specification, paragraph [0047], paragraph [0049], paragraph [0075], paragraph [0114], paragraph [0151]; Fig. 5B at 508-509; also see generally, e.g., Fig. 4).

Appellant further asserts that the art rejections herein fail to teach or suggest all of the claim limitations of Appellant's **dependent claims 8 and 32**, with claim limitations wherein defining a plurality of entitlement groups includes defining limits comprising a selected one of per-transaction limits and cumulative limits over a period of time (see e.g., Appellant's specification, paragraph [0047], paragraph [0075], paragraph [0114], paragraph [0151]; Fig. 5B at 508-509; also see generally, e.g., Fig. 4).

Appellant further asserts that the art rejections herein fail to teach or suggest all of the claim limitations of Appellant's **dependent claims 2 and 26**, which includes claim limitations of a hierarchical entitlement structure in which a given entitlement group inherits permissions provided to its parent entitlement group in said hierarchical entitlement structure (see e.g., Appellant's specification, paragraph [0043], paragraph [0045], paragraphs [0067]-[0068], paragraph [0112]; Fig. 5A at 503; also see generally, e.g., Fig. 4).

Appellant further asserts that the art rejections herein fail to teach or suggest all of the claim limitations of Appellant's **dependent claims 3 and 27**, which includes claim limitations of defining a plurality of entitlement groups including restricting permissions inherited by an entitlement group from its parent entitlement group in said hierarchical

entitlement structure (see e.g., Appellant's specification, paragraph [0043], paragraph [0045], paragraphs [0067]-[0068], paragraph [0112]; Fig. 5A at 503; also see generally, e.g., Fig. 4).

Appellant further asserts that the art rejections herein fail to teach or suggest all of the claim limitations of Appellant's **dependent claim 30**: wherein at least some of said particular objects represent bank accounts (see e.g., Appellant's specification, paragraph [0063], paragraphs [0067]-[0068], paragraphs [0081]-[0083]).

Appellant further asserts that the art rejections herein fail to teach or suggest all of the claim limitations of Appellant's **dependent claim 33**: wherein said permissions to perform financial transactions include permissions applying to a selected one of functions of a financial application and objects of a financial application (see e.g., Appellant's specification, paragraph [0070], paragraph [0076], paragraphs [0081]-[0083]).

Appellant further asserts that the art rejections herein fail to teach or suggest all of the claim limitations of Appellant's **dependent claims 17 and 41**: wherein said permission information is modeled as three-tuples representing negative permissions (see e.g., Appellant's specification, paragraph [0045], paragraphs [0088]-[0098]).

6. GROUNDS OF REJECTION TO BE REVIEWED

The grounds for appeal are:

(1st) Whether claims **1, 4-5, 7-8, 10-16, 18-22 and 25-45** are unpatentable under 35 U.S.C. Section 103(a) as being obvious over U.S. Patent 6,126,139 to Win (hereinafter "Win") in view of U.S. Published Application 2002/0029339 of Rowe (hereinafter "Rowe"); and

(2nd) Whether claims **2-3, 6, 9 and 17** are unpatentable under 35 U.S.C. Section 103(a) as obvious over Win (above) in view of Rowe (above) and further in view of U.S. Patent 6,202,066 to Barkley (hereinafter "Barkley").

7. ARGUMENT

A. First Ground: Claims 1, 4-5, 7-8, 10-16, 18-22 and 25-45 rejected under 35 U.S.C. 103(a)

1. General

Under Section 103(a), a patent may not be obtained if the differences between the

subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. To establish a prima facie case of obviousness under this section, the Examiner must establish: (1) that there is some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings, (2) that there is a reasonable expectation of success, and (3) that the prior art reference (or references when combined) must teach or suggest all the claim limitations. (See e.g., MPEP 2142). The reference(s) cited by the Examiner fail to meet these conditions.

2. Claims 1, 4-5, 7, 10-11, 13-16, 18-22 and 25-45

The Examiner has rejected Appellant's claims 1, 4-5, 7-8, 10-16, 18-22 and 25-45 under 35 U.S.C. Section 103(a) as being obvious over U.S. Patent 6,126,139 to Win (hereinafter "Win") in view of U.S. Published Application 2002/0029339 of Rowe (hereinafter "Rowe"). The following rejection of Appellant's claims 1 by the Examiner is representative of the Examiner's rejection of the Appellant's claims under Section 103:

Re claim 1: (Currently amended) Win discloses a computer-implemented method for specifying and enforcing entitlements for performance of financial transactions, the method comprising:

- in a computer system having at least a processor and memory, providing a hierarchical entitlement structure with inheritance for specifying entitlements for performing financial transactions (column 4, lines 22-26; column 5, lines 7-8);
- receiving user input for defining a plurality of entitlement groups of said hierarchical entitlement structure, wherein each entitlement group has specified permissions to perform financial transactions (column 15, lines 15-21; column 4, lines 24-26).

Win doesn't explicitly teach the limitation comprising *wherein each entitlement group has limits on performance of said financial transactions, and membership of each user*. Rowe, however, makes this teaching in a related endeavor (paragraph 12, lines 5-13; paragraph 14). Rowe discloses as his invention a method and apparatus for facilitating monetary and commercial transactions and securely storing data. The present invention relates to methods and devices for permitting monetary transactions, such as the transfer of funds and the payment of monies, for facilitating commercial transactions such as the purchase of goods, and for securely storing data. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teaching of Rowe with those

of Win as discussed above for the motivation of establishing entitlement to access the account (Rowe, abstract).

Win further discloses:

- in response to a particular user request to perform a financial transaction at runtime, identifying the particular user's membership in a certain entitlement group (column 5, lines 45-55);
- determining whether to allow the particular user to perform the financial transaction based on permissions and limits of said hierarchical entitlement structure applicable to the particular user's performance of the financial transaction (column 4, lines 15-18);

(Final Rejection, page 3)

At the outset, Appellant does not claim to have invented the notion of associating roles with administrative privileges. Appellant acknowledges that the general teaching of role-based administrative privileges is known in the art and is described by Win as well as numerous other prior art references. However, Appellant's claimed invention serves a different and distinct role in that it is focused on specifying and enforcing entitlements (including permissions and limits) for performing financial transactions (see e.g., Appellant's specification, paragraph [0013]). Appellant's solution utilizes a hierarchical structure for specifying and enforcing entitlements for performing financial transactions that is particularly useful in banking and other financial applications and that distinguish Appellant's claimed invention from the cited prior art references in a significant number of respects.

One difference between Appellant's invention and the cited prior art references is that Appellant's invention is focused on specifying and enforcing permissions and limits (i.e., entitlements) for performing financial transactions, which can be used as part of a financial application such as a corporate banking application (see e.g., Appellant's specification, paragraph [0013], paragraph [0043]). The entitlements that may be defined and enforced using Appellant's invention include application-specific entitlements (e.g., performing certain functions of an application), transaction entitlements (e.g., performing certain transactions or operations on an object), and limits or limit entitlements such as a maximum dollar limit for payments or similar banking functions (see e.g., Appellant's specification, paragraph [0044]). These features are included as limitations of

Appellant's claims including, for instance, the following limitations of Appellant's claim 1:

A method implemented in a computer system for specifying and enforcing entitlements for performance of financial transactions, the method comprising: in a computer system having at least a processor and memory, providing a hierarchical entitlement structure with inheritance for specifying entitlements for performing financial transactions; receiving user input for defining a plurality of entitlement groups of said hierarchical entitlement structure, wherein each entitlement group has specified permissions to perform financial transactions, limits on performance of said financial transactions, and membership of each user;

(Appellant's claim 1, emphasis added)

Here, the entitlements that may be specified and enforced with Appellant's claimed invention include whether a given user is allowed to perform certain financial transactions (e.g., create wire transactions) as well as limits on the user's performance of permitted activities, such as setting a dollar limit for payment operations and other banking functions (see e.g., Appellant's specification, paragraph [0044]).

The Examiner contends that Win's teachings of associating users with one or more administrative roles and associating each defined administrative role with one or more administrative privileges (Win, Abstract and col. 1, lines 18-24) are comparable to Appellant's solution for specifying and enforcing entitlements for performance of financial transactions (Final Rejection, paragraph 4, pages 2-3). However, **Win makes no mention whatsoever of discussing limits for performing financial transactions.** The Examiner contends (in the Advisory Action dated November 3, 2009) that because one of the job functions mentioned by Win is "financial analyst" that "the user role of financial analyst implicitly performing a finance-related function". However, the mere mention of the fact that an organization may have an employee with a job title of "financial analyst" does not teach anything about how financial transactions may actually be performed or how a system for specifying and enforcing entitlements (e.g., permissions and limits) for performing financial transactions may actually be constructed. As Win does not provide any discussion of financial transactions being performed, there is nothing to teach or remotely suggest how one might use Win's system to specify and

enforce permissions and limits for performing financial transactions.

Additionally, Win's access control system does **not** include a hierarchical entitlement structure with inheritance comparable to that of Appellant's claimed invention. Appellant's solution provides a hierarchical entitlement structure with inheritance that includes a hierarchy of roles in which a given subordinate role inherits attributes from its parent (i.e., superior) role (see e.g., Appellant's specification, paragraph [0045]; also see e.g., Fig. 5A at 501-502). The inheritance from above is negative (i.e., restrictive) in nature (see e.g., Appellant's specification, paragraph [0045]; also see, e.g., paragraph [0112]; also see e.g., Fig. 5A at 503). The root node resides at the top of the inheritance hierarchy, serving as an administrator who may perform all functions in the system (see e.g., Appellant's specification, paragraph [0045]). As the entitlement hierarchy of Appellant's solution is traversed downward from the root, additional restrictions are applied to subordinate roles; subordinate roles cannot have greater permissions than their parent (see e.g., Appellant's specification, paragraph [0045]; see also, paragraph [0068]). By operating in this fashion, Appellant's hierarchical entitlements solution with inheritance provides a much more flexible solution as shown, for example, by the following:

The system and methodology of the present invention allows an organization to define limits that are not only cumulative to a specific role but that also roll up through the entire role hierarchy. A business may, for example, specify that (1) its accounts receivable function is able to perform wire transactions, subject to limits of \$1,000 per wire, \$1,000 per day, and \$20,000 per month, (2) its accounts payable function has the same limit, but (3) the controller function has a different set of limits. Suppose that, for this particular business, the accounts receivable, accounts payable, and controller function roll up to the CFO (chief financial officer) function in the organization's hierarchy, and the CFO role itself has a specified limit of \$50,000 per day and \$100,000 per month. In this circumstance, the present invention enables the organization to define and enforce limitations that the combination of functions under the CFO cannot collectively spend more than the limit specified for the CFO.

(Appellant's specification, paragraph [0047]).

The **hierarchical structure with inheritance** for specifying and enforcing entitlements of Appellant's invention is specifically included in Appellant's claims. This feature is described, for example, in the above-quoted limitations of Appellant's claim 1.

Win's access control system does **not** include a comparable hierarchical entitlement structure with inheritance. The teachings of Win referenced by Examiner in the Final Rejection (page 3, re: claim 1) for the corresponding teachings simply describe that users may have various roles as follows:

Users are individuals who have a relationship with an organization and play various roles, and are registered in the system 2. Users may be members of an organization, or may be customers, suppliers, or business partners of the organization.

(Win, column 4, lines 22-26)

As illustrated above, Win makes no mention of any sort of hierarchical structure, inheritance, or entitlements for performing financial transactions.

The Examiner also references (in the Advisory Action dated November 3, 2009) the following teachings of Win as corresponding to Appellant's claim limitations of a hierarchical entitlement structure with inheritance:

A Role may reflect a relationship of a User to the organization (employee, customer, distributor, supplier), their department within an organization (sales, marketing, engineering) or any other affiliation or function (member of quality task force, hotline staff member) that defines their information needs and thus their access rights or privileges.

(Win, column 5, lines 2-8)

Again, Win simply describes conventional role-based permissions and makes no mention of a "hierarchical entitlement structure" or "inheritance" or of "entitlements for performing financial transactions". Respectfully, Win's teachings of role-based permissions are not at all comparable to the specific limitations of Appellant's claims (e.g., Appellant's claim 1, quoted above).

Furthermore, the Examiner admits that Win provides no teaching of entitlement groups having specified limits on the performance of financial transactions and membership of each user (Final Rejection, page 3, re: claim 1) as provided, for instance, in the following claim limitations of Appellant's claim 1:

receiving user input for defining a plurality of entitlement groups of said

hierarchical entitlement structure, wherein each entitlement group has specified permissions to perform financial transactions, limits on performance of said financial transactions, and membership of each user;
in response to a particular user request to perform a financial transaction at runtime, identifying the particular user's membership in a certain entitlement group; and
determining whether to allow the particular user to perform the financial transaction based on permissions and limits of said hierarchical entitlement structure applicable to the particular user's performance of the financial transaction.

(Appellant's claim 1, emphasis added)

The Examiner therefore turns to Rowe as providing the corresponding teachings admittedly not provided by Win. However, although Rowe mentions the word "limit" it does not include features for defining and enforcing limits on the performance of financial transactions comparable to Appellant's claimed invention and is distinguishable in a number of respects.

Rowe describes a solution for opening a new bank or financial account with a financial provider electronically (Rowe, paragraph [0012], paragraphs [0028]-[0029]). As part of Rowe's methodology for establishing an account, a "value limit" is assigned to the account (Rowe, paragraph [0012]). This value limit is the maximum amount of funds what will be held in the account, which is typically the amount of the initial deposit into the account (Rowe, paragraph [0040]). Thus, Rowe's value limit is a single number associated with a given financial account (e.g., bank account) and is **not** a limit that is tied to an entitlement group (or user role). In fact, Appellant's review of Rowe finds **no** mention of defining entitlement groups (or of roles) or the type and amount of financial transactions that may be performed by members of such entitlement groups. Additionally, Rowe makes no mention of a hierarchical entitlement structure with inheritance.

With Appellant's claimed invention, in contrast, users are members of entitlement groups of a hierarchical entitlement structure, with each group having specified permissions and limits for performing financial transactions. A user's membership in an entitlement group determines the permissions and limitations to which the user is subject. The entitlements that may be specified and enforced with Appellant's claimed invention

include whether members of a given entitlement group are allowed to perform certain financial transactions (e.g., create wire transactions) as well as dollar limits on performance of such transactions (see e.g., Appellant's specification, paragraph [0044]). Rowe's teachings are not comparable as the limitations described by Rowe are tied to particular accounts rather than to users or roles (i.e., members of entitlement groups). In particular, Rowe makes no mention of the fact that a user may belong to an entitlement group which gives the user certain permissions and limits to perform financial transactions.

At most, the prior art references describe that an organization may be organized in a hierarchical structure (e.g., a corporation with a President/CEO at the top and lower level employees at the bottom). Appellant acknowledges that an organization such a corporation may be organized hierarchically; however, the manner in which employees of a corporation or other organization may be organized appears only marginally (if at all) relevant to how one might develop a computer-implemented solution to regulate the performance of financial transactions. Appellant's claimed invention comprises a computer-implemented solution including a hierarchical entitlement structure for specifying entitlements for performing financial transactions.

Additionally, Appellant's solution also provides for **inheritance** among roles in this hierarchical entitlements structure. More particularly, with Appellant's solution subordinate roles inherit entitlements (e.g., permissions and limits) from parent roles in the hierarchical structure. Appellant's review of Win and Rowe finds no teaching or suggestion of any hierarchical entitlements structure in which users having one role to gaining permissions (entitlements) from other roles through inheritance.

The Examiner argues (in the Advisory Action dated November 3, 2009) that Win does, in fact, disclose the "passing on" of access or entitlement privileges within an organization using the following example:

Any user who is assigned the role of "Sales Manager" in the future will automatically have access to the "National Sales Report" resource. If the administrator later un-assigns "Sales Manager" from the "National Sales Report" resource, then all users associated with the "Sales Manager" role will automatically lose access to the resource.

(Win, col. 18, lines 25-34)

Respectfully, the above does not illustrate inheritance, but rather simply is an example of conventional role-based permissions. All users assigned the role of "Sales Manager" have the same permissions. When the administrator adds a user to the Sales Manager role, then the newly added user has the same permission to access the specified resource as all other users having the same role. When the administrator withdraws the privilege to access the resource from the role, all users associated with the Sales Manager role lose the privilege. However, there is no teaching of a given role inheriting permissions from any other role.

The difference between Win's approach and that of Appellant can be illustrated by example. Suppose, for instance, a Customer Service Representative needs permission for performing transactions a1, a2 and a3. Furthermore, a Customer Service Manager needs permissions for everything a Customer Service Representative can do (i.e., a1, a2 and a3) plus c1. Additionally, assume a Customer Service Director needs permission for everything a Customer Service Manager can do (i.e., a1, a2, a3 and c1) plus d1. In Win's system, these permissions can be assigned one of the two ways described below.

The first approach which can be used in Win's system is to create three roles as follows (i) role CSR with permissions a1, a2, a3; (ii) role CSM with permission c1; and role CSD with permission d1. The role CSR would then be assigned to the Customer Service Representative. The Customer Service Manager would then be assigned two roles (CSR and CSM) and the Customer Service Director would be assigned all three roles (CSR, CSM, CSD). As illustrated, as one goes up the management chain in an organization, administration of this type of access control system becomes cumbersome due to the number of roles that need to be assigned to some users.

The second approach which can be utilized with Win's system would be to define the same three roles, but assign the privileges differently as follows: (i) role CSR with permissions a1, a2, a3; (ii) role CSM with permissions a1, a2, a3, c1; and (iii) role CSD with permissions a1, a2, a3, c1, d1. However, consider what happens when a Customer Service Representative needs permission to do a4, and therefore Customer Service Managers and Directors also need to do a4. This requires that all three roles be changed to add the permission to do a4, which is inconvenient and more difficult to administer.

With Appellant's hierarchical entitlement structure with inheritance, in contrast, one can define an inheritance relationship between the Customer Service Manager role and the Customer Service Representative role and another relationship between the Customer Service Director and the Customer Service Manager. Each user can still have one role (e.g., Customer Service Manager), yet gain permissions from other roles through inheritance. This makes management of permissions in a hierarchical environment such as a corporation easier to model and administer.

3. Claims 12 and 36

The above-described distinctions between the hierarchical entitlements structure of Appellant's invention and the role-based permissions of Win are made even more apparent when one considers the limitations of Appellant's dependent claims. For example, Appellant's dependent claim 12 includes the following limitations:

The method of claim 1, wherein said step of defining a plurality of entitlement groups includes defining limits applying collectively to a particular entitlement group and children entitlement groups of said particular entitlement group in said hierarchical entitlement structure.

(Appellant's claim 12, emphasis added)

(Claim 36 includes similar claim limitations) Consider the example previously described above in this document. Appellant's invention enables an organization, for example, to define and enforce limitations applicable to the CFO of an organization as well as all those in the organization that report to the CFO. In other words, the limits applicable to the CFO apply not only to the CFO, but also apply to the combination of functions under the CFO such that they cannot collectively spend more than the limit specified for the CFO (see e.g., Appellant's specification, paragraph [0047]).

In this case, the Examiner references the following teachings of Win as being comparable to the above-claimed features of Appellant's invention:

The Role Admin privilege may be delegated to owners of a particular resource, for example the technical support database. Administrators in the Technical Support Department would be able to control who has access to that resource by assigning or removing roles associated with that resource from user accounts. The list of roles that may be managed by an administrator with this privilege is limited to the roles that have been assigned to their associated Admin Role record.

(Win, col. 16, lines 59-67)

As illustrated above, Win makes no mention of a hierarchical entitlements structure in which a particular entitlement group has a child entitlement group. Additionally, Win makes no mention of limits, whether such limits are being applied to one or more entitlement groups (roles) or otherwise. In fact, as indicated on page 3 of the Final Rejection the Examiner acknowledges Win does not include teachings of limits on performance of financial transactions. Given that the Examiner admits Win does not teach limits on performance of financial transactions in general, it is clear that Win also cannot teach defining limits which apply collectively to more than one entitlement group as provided in the limitations of Appellant's claims 12 and 36.

4. Claims 8 and 32

Further distinctions between Appellant's claimed invention and the Win and Rowe references are found in dependent claims 8 and 32. For example, Appellant's dependent claim 8 includes the following limitations:

The method of claim 1, wherein said step of defining a plurality of entitlement groups includes defining limits comprising a selected one of per-transaction limits and cumulative limits over a period of time.

(Appellant's claim 8, emphasis added)

Appellant's claimed invention enables a user or administrator to define both per-transaction limits and cumulative limits over a period of time for each type of activity being performed by users having a given role (i.e., membership in a given entitlement group) (see e.g., Appellant's specification, paragraph [0151]; see also paragraph [0047]). For example, limits for each role (including those which are inherited) may be established per-transaction as well as per day, per week and/or per month for each type of activity being performed by the user. In this manner Appellant's invention enables one to define a "mass market consumer" role which has permission to pay bills up to a maximum amount of \$500 per bill, with a maximum cumulative limitation of \$2,000 per week. Another "affluent consumer" role can be defined which permits a user having such role to pay bills up to \$1,000 per bill, up to \$5,000 per week and may perform external transfers

of up to \$10,000 per month.

Respectfully, the above teachings of Rowe simply describe a fixed "maximum funds value" or "value limit" assigned by an account provider to a given financial account. In contrast to Rowe's teachings of single values associated with a given financial account, Appellant's claimed invention provides for per-transaction and cumulative limits which are applicable to particular users or roles. More generally (and as previously discussed) the values described by Rowe are tied to accounts and not roles and thus are individual to a particular customer account, having no relevance to other limits. Therefore, the referenced teachings are not remotely comparable to the above-described features of Appellant's claimed invention.

5. Claims 26, 27, 30, 33 and 41

In the Final Rejection, the Examiner acknowledges (see e.g., at page 7 in the discussion of claims 2 and 3) that Win and Rowe do not teach include teachings of a hierarchical entitlement structure with inheritance in which permissions are inherited from above. Thus, as the Examiner acknowledges that Win and Rowe do not include these teachings, Appellant's claims 26 and 27 including these claim limitations are clearly distinguishable from the cited prior art.

Similarly, as to claim 30, the Examiner admits (see e.g., at page 7 in the discussion of claim 6) that Win and Rowe do not include teachings of the limitation "wherein at least some of said particular objects represent bank accounts". Accordingly, Claim 30 that includes similar claim limitations is admittedly allowable over Win and Rowe.

Claim 33 includes claim limitations of defining permissions applicable to a selected one of functions of a financial application and objects of a financial application. The Examiner acknowledges that Win and Rowe do not provide this teaching (Final Rejection, page 8, re: claim 9).

Claim 41 includes claim limitations of modeling the permission information as three tuples. The Examiner admits that Win and Rowe do not provide comparable teachings (Final Rejection, page 8, re: claim 9).

6. Conclusion

All told, Win and Rowe, even when combined, do not provide a solution which

enables one to define and enforce permissions and limits for performing financial transactions. In addition, neither reference includes teachings of a solution providing a hierarchical entitlement structure with inheritance in which a particular role inherits entitlements from another role. In addition, without teaching the hierarchical entitlement structure, the combined references cannot include any teaching of defining both per transaction limits and cumulative limits over a period of time for each type of activity being performed for entitlement groups of the hierarchical entitlement structure. Therefore, as the Win and Rowe references, even when combined, do not teach or suggest all of the claim limitations of Appellant's claims, it is respectfully submitted that claims 1, 4-5, 7-8, 10-16, 18-22 and 25-45 (as well as other claims) distinguish over the combined references and the rejection under Section 103 should not be sustained.

B. Second Ground: Claims 2-3, 6, 9 and 17 rejected under 35 U.S.C. 103(a)

1. Claims 2-3, 6, 9 and 17

Claims 2-3, 6, 9 and 17 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Win (above) in view of Rowe (above) and further in view of U.S. Patent 6,202,066 to Barkley (hereinafter "Barkley"). As to these claims, the Examiner continues to rely on Win and Rowe, but acknowledges that they do not teach certain limitations of these dependent claims as discussed below in more detail. The Examiner therefore adds Barkley as providing teachings corresponding to the limitations of these dependent claims.

Appellant's claims are believed to be allowable for at least the reasons cited above (as to the first Section 103 rejection) pertaining to the deficiencies of Win and Rowe as to Appellant's invention. As these claims are dependent upon, and incorporate the limitations of Appellant's independent claims, they are distinguishable for the reasons previously described in detail in Appellant's **First Ground** of Appeal (incorporated by reference herein). As Barkley does not provide any teaching of a hierarchical entitlement structure with inheritance for specifying entitlements for performing financial transactions, it does not cure the deficiencies of these references as to Appellant's invention. Appellant also believes that these dependent claims are distinguishable for the following additional reasons.

2. Claims 2-3, 6 and 9

As previously discussed, Appellant's solution provides a hierarchical entitlements structure with inheritance enabling one role to inherit permissions from another role. More particularly, Appellant's claimed invention provides for a hierarchy of roles in which roles are inherited from above (see e.g., Appellant's specification, paragraph [0045]; see also, e.g., Fig. 5A at 501-503). Significantly, Appellant's approach is to structure such inheritance negatively so as to apply restrictions as one goes down in the hierarchical entitlements structure (see e.g., Appellant's specification, paragraph [0045]). With Appellant's solution the root node residing at the top of the inheritance structure, for example, has all permissions and may perform all functions in the system (Appellant's specification, paragraph [0045]). As the hierarchy is traversed downward, additional restrictions are applied (Appellant's specification, paragraph [0045]). This approach of restricting inherited permissions is included, for instance, as limitations of Appellant's dependent claim 3 as follows:

The method of claim 2, wherein said step of defining a plurality of entitlement groups includes restricting permissions inherited by an entitlement group from its parent entitlement group in said hierarchical entitlement structure.

(Appellant's claim 3, emphasis added)

Thus, Appellant's solution provides for top-down inheritance in which an entitlement group inherits permissions from its parent, but typically subject to restrictions on such permissions. Although Barkley discusses that one role may inherit from another role, Barkley takes a bottom-up, rather than a top-down, approach to inheritance. As described at column 9, lines 48-51 of Barkley, a "manager" role has its own permissions and also inherits those permissions of its "subordinates" (Barkley, column 9, lines 48-51). Thus, Barkley describes expanding permissions through inheritance rather than restricting them. Another example of Barkley's bottom-up approach to inheritance is described at column 12, lines 19-26 which describes a financial advisor role inheriting privileges from an account rep role, such that the financial advisor has the permissions necessary to function as an account rep (Barkley, column 12, lines 19-26). There is nothing in Barkley to teach or suggest that the lower account rep role includes all the privileges of

the higher financial role with limitations. Thus, Barkley in fact teaches away from Appellant's top-down inheritance approach. Additionally, the Examiner also references column 11, lines 39-43 and column 13, lines 14-15 of Barkley as including teachings of restricting permissions inherited from a parent group of Appellant's claim 3. However, Appellant's review of the referenced teachings finds that while they discuss various roles having different object access privileges (e.g., to read, write or delete certain objects) they do not include teachings of restricting permissions inherited from its parent in a hierarchical entitlement structure. Given Barkley's bottom-up approach to inheritance, this is not surprising. Additional restrictions would not typically be applied to managers, for example, on privileges that they inherit from lower level subordinates.

The Examiner argues that Barkley's approach is a "top-down" approach simply because Barkley's solution provides for roles occupying a higher structure in the organization (e.g., branch manager) to have greater access privileges compared to roles at lower levels in the organization, such as employees (Advisory Action dated November 3, 2009). The Examiner appears to again rely on the fact that an organization may be organized hierarchically with senior level employees at the top and lower at the bottom as providing the "hierarchical, top down" structure corresponding to Appellant's claim limitations. However, the "hierarchical structure" referenced in Appellant's specification and claims is not a corporation or organization. Instead, the hierarchical structure of Appellant's claimed invention is a manner of structuring entitlements (e.g., permissions and limits) in a tree form in which the root (all permissions) is at the top, child nodes inherit permissions from parent nodes above, and the permissions inherited by a child from its parent are restricted as one traverses down the entitlement tree structure. In contrast, when one looks at the actual teachings of Barkley regarding inheritance, it is clear that with Barkley's solution managers (i.e., the parent role), inherit permissions held by subordinate employees (children). As shown at Fig. 5 of Barkley, and described at col. 13, lines 41-49, the "financial advisor" role inherits read permissions from "employee" and "account rep" roles as follows:

The Read permission for the files within the accounts directory is granted as a result of the fact that financial_advisor inherits account_rep, which has Read permission as a result of the definition of the accounts OAT. Also,

financial_advisor has Read permission on the file empl_info as a result of the fact that financial_advisor inherits employee and employee has Read permission for all files associated with the employee_read OAT, as is the case for the file empl_info

(Barkley, column 13, lines 41-49)

Barkley's also states that while the financial_advisor role inherits permissions from the account_rep role, the financial_advisor role may also have additional permissions (Barkley, column 10, lines 50-55). Thus, rather than restrict the inherited permissions, Barkley expands the permissions of higher-level roles by having them inherit from lower-level roles. Respectfully, it is clear from this discussion, as well as review of the balance of the reference, that Barkley describes bottom-up, not top-down inheritance.

3. Claim 17

The Examiner also references Barkley for teachings comparable to Appellant's claim 17, which includes claim limitations providing that permissions are represented as three tuples representing negative permissions. Although Barkley does discuss modeling permissions as three tuples, it does not represent permissions negatively. For instance, Barkley describes permissions as follows:

User: Any person who interacts directly with a computer system, or a computer process which may or may not represent a person.
A permission can thus be described as authorization to perform an operation on an object, while an access control policy which uses roles or groups defines an association between a role or group and the permissions for that role or group. This association can be represented as a 3-tuple:
(role or group; object; {permitted operations on object})
That is, a user assigned to role (or a member of group) is authorized to perform operation on object only if operation is a member of the set of permitted operations.

(Barkley, col. 6, lines 56-65, emphasis added)

Significantly, the above illustrates that Barkley uses the conventional approach to permissions in providing that privileges are represented affirmatively in that a set of permitted operations is associated with each role. This is not Appellant's approach.

Appellant's solution represents negative permissions (restricted entitlements) as

illustrated by the following example:

In the currently preferred embodiment of the present invention entitlements are modeled as three-tuples which represent negative permissions (restricted entitlements). The format of the tuples is: (operation, obj_type, obj_id). Wildcarding is allowed in each of the positions resulting in the following possible combinations of entitlement information:

- (1) (*, *, *) - all entitlements removed;
- (2) (*, obj_type, *) - no operations allowed on the given obj_type;

(Appellant's specification, paragraphs [0088]-[0090])

This structure is consistent with Appellant's general approach, which provides that the inheritance among roles is negative (i.e., restrictive). With Appellant's hierarchical structure, the root node residing at the top of the inheritance hierarchy is enabled for all functions (see e.g, Appellant's specification, paragraph [0045]). As Appellant's hierarchy is traversed, additional restrictions are applied. For example and as shown above, three wildcards (*, *, *) represent that all entitlements (permissions) are removed. Barkley, in contrast, describes that permissions are assigned affirmatively, with a given role only having those specific (affirmative) permissions assigned to it. This is also another example illustrating the differences between Barkley's bottom-up approach and Appellant's top-down solution to inheritance of permissions. Thus, Barkley's teachings are not comparable to the limitations of Appellant's claim 17, which includes that negative permissions are represented as three-tuples.

4. Conclusion

For the reasons discussed above, the combined references do not teach or suggest all of the claim limitations of Appellant's claims 2-3, 6, 9 and 17. Therefore, as the combined references do not teach or suggest all the limitations of Appellant's claims it is respectfully submitted that Appellant's claimed invention is distinguishable over the prior art and that the Examiner's rejection under Section 103 should not be sustained.

C. Conclusion

The present invention greatly improves the efficiency of the specifying and enforcing permissions and limits for performing financial transactions that may be used

with banking and other financial applications. It is respectfully submitted that the present invention, as set forth in the pending claims, sets forth a patentable advance over the art.

In view of the above, it is respectfully submitted that the Examiner's rejection of Appellant's claims under 35 U.S.C. Section 103 should not be sustained. If needed, Appellant's undersigned attorney can be reached at 925 465 0361. For the fee due for this Appeal Brief, please refer to the attached Fee Transmittal Sheet. This Appeal Brief is submitted electronically in support of Appellant's Appeal.

Respectfully submitted,

Date: February 16, 2010

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8. CLAIMS APPENDIX

1. A method implemented in a computer system for specifying and enforcing entitlements for performance of financial transactions, the method comprising:

in a computer system having at least a processor and memory, providing a hierarchical entitlement structure with inheritance for specifying entitlements for performing financial transactions;

receiving user input for defining a plurality of entitlement groups of said hierarchical entitlement structure, wherein each entitlement group has specified permissions to perform financial transactions, limits on performance of said financial transactions, and membership of each user;

in response to a particular user request to perform a financial transaction at runtime, identifying the particular user's membership in a certain entitlement group; and

determining whether to allow the particular user to perform the financial transaction based on permissions and limits of said hierarchical entitlement structure applicable to the particular user's performance of the financial transaction.

2. The method of claim 1, wherein said hierarchical entitlement structure provides that a given entitlement group inherits permissions provided to its parent entitlement group in said hierarchical entitlement structure.

3. The method of claim 2, wherein said step of defining a plurality of entitlement groups includes restricting permissions inherited by an entitlement group from its parent entitlement group in said hierarchical entitlement structure.

4. The method of claim 1, wherein said step of defining a plurality of entitlement groups includes defining permissions to access particular objects in a financial application.

5. The method of claim 4, wherein said step of defining a plurality of entitlement groups includes defining permissions to perform functions on said particular objects.

6. The method of claim 4, wherein at least some of said particular objects represent bank accounts.

7. The method of claim 1, wherein said limits comprise limitations on values of financial transactions to be performed.

8. The method of claim 1, wherein said step of defining a plurality of entitlement groups includes defining limits comprising a selected one of per-transaction limits and cumulative limits over a period of time.

9. The method of claim 1, wherein said step of defining a plurality of entitlement groups includes defining permissions applying to a selected one of functions of a financial application and objects of a financial application.

10. The method of claim 1, wherein said step of defining a plurality of entitlement groups includes defining limits applicable to individual users.

11. The method of claim 1, wherein said step of defining a plurality of entitlement groups includes defining limits applicable collectively to members of an entitlement group.

12. The method of claim 1, wherein said step of defining a plurality of entitlement groups includes defining limits applying collectively to a particular entitlement group and children entitlement groups of said particular entitlement group in said hierarchical entitlement structure.

13. The method of claim 1, further comprising:
tracking financial transactions performed for purposes of determining compliance with limits.

14. The method of claim 13, wherein said step of tracking financial transactions performed includes maintaining running total values of financial transactions performed in cache for improved performance.

15. The method of claim 14, wherein said step of determining whether to allow the particular user to perform the financial transaction includes determining whether any limits have been exceeded based on the running total values and the value of the financial transaction requested by the particular user.

16. The method of claim 1, further comprising:
maintaining permission information for entitlement groups in the hierarchical entitlement structure in cache to improve system performance.

17. The method of claim 16, wherein said permission information is modeled as three-tuples representing negative permissions.

18. The method of claim 1, wherein permissions provided to an entitlement group include permissions to administer a certain other entitlement group.

19. The method of claim 18, wherein permissions to administer a particular entitlement group include modifying permissions of said certain other entitlement group.

20. The method of claim 18, wherein said permissions to administer a certain other entitlement group are subject to limitations defined for the entitlement group having said permissions to administer.

21. The method of claim 1, wherein permissions provided to an entitlement group include permissions to extend a certain other entitlement group.

22. The method of claim 21, wherein permissions to extend a certain other entitlement group include permissions to define a child entitlement group of said

particular entitlement group.

23. - 24. (Canceled)

25. A system for specifying and enforcing entitlements for performance of financial transactions, the system comprising:

- a computer having at least a processor and memory;
- a hierarchical entitlement structure with inheritance for specifying entitlements for performing financial transactions;
- a user input module for specifying a plurality of entitlement groups of said hierarchical entitlement structure, wherein each entitlement group has specified permissions to perform financial transactions, limits on performance of said financial transactions, and user membership; and
- an enforcement module for determining, in response to a particular user's request to perform a given financial transaction at runtime, whether to allow the particular user to perform the financial transaction based on permissions and limits of said hierarchical entitlement structure applicable to the entitlement group of which the particular user is a member.

26. The system of claim 25, wherein said hierarchical entitlement structure provides that a given entitlement group inherits permissions provided to its parent entitlement group in said hierarchical entitlement structure.

27. The system of claim 26, wherein said plurality of entitlement groups includes a child entitlement group inheriting permissions from its parent entitlement group in said hierarchical entitlement structure; wherein restrictions are applied to the permissions inherited by such child inheritance group.

28. The system of claim 25, wherein said permissions to perform financial transactions include permissions to access particular objects in a financial application.

29. The system of claim 28, wherein said step wherein said permissions to perform financial transactions include permissions to perform functions on said particular objects.

30. The system of claim 28, wherein at least some of said particular objects represent bank accounts.

31. The system of claim 25, wherein said limits comprise limitations on values of financial transactions to be performed.

32. The system of claim 31, wherein limitations on values of financial transactions to be performed comprise a selected one of per-transaction limits and cumulative limits over a period of time.

33. The system of claim 25, wherein said permissions to perform financial transactions include permissions applying to a selected one of functions of a financial application and objects of a financial application.

34. The system of claim 25, wherein said specifying a plurality of entitlement groups includes specifying limits applicable to individual users.

35. The system of claim 25, wherein said specifying a plurality of entitlement groups includes specifying limits applicable collectively to members of an entitlement group.

36. The system of claim 25, wherein said specifying a plurality of entitlement groups includes specifying limits applying collectively to a particular entitlement group and children entitlement groups of said particular entitlement group in said hierarchical entitlement structure.

37. The system of claim 25, further comprising:

a module for tracking financial transactions performed for purposes of determining compliance with limits.

38. The system of claim 37, wherein said module for tracking financial transactions performed maintains running total values of financial transactions performed in cache memory of the computer.

39. The system of claim 38, wherein said enforcement module determines whether to allow the particular user to perform the financial transaction based, at least in part, on said running total values and the value of the financial transaction requested by the particular user.

40. The system of claim 25, further comprising:
a module for maintaining permission information for entitlement groups in the hierarchical entitlement structure in cache memory of the computer.

41. The system of claim 40, wherein said permission information is modeled as three-tuples representing negative permissions.

42. The system of claim 25, wherein permissions provided to an entitlement group include permissions to administer a certain other entitlement group.

43. The system of claim 42, wherein permissions to administer a particular entitlement group include modifying permissions of said certain other entitlement group.

44. The system of claim 42, wherein said permissions to administer a certain other entitlement group are subject to limitations defined for the entitlement group having said permissions to administer.

45. A method for defining and enforcing permissions and limits on performance of financial transactions in a banking system, the method comprising:

in a banking system implemented in a computer system having at least a processor and memory, receiving user input defining a plurality of entitlement groups, wherein each entitlement group has specified users, permissions to perform financial transactions and limits on performance said financial transactions;

organizing said plurality of entitlement groups into hierarchical structure with inheritance specifying permissions and limits for performing financial transactions;

in response to a particular user request to perform a financial transaction in the banking system at runtime, identifying the particular user's membership in a certain entitlement group; and

determining whether to allow the particular user to perform the financial transaction based on permissions and limits of said hierarchical entitlement structure applicable to the particular user's performance of the financial transaction.

9. EVIDENCE APPENDIX

This Appeal Brief is not accompanied by an evidence submission under §§ 1.130, 1.131, or 1.132.

10. RELATED PROCEEDINGS APPENDIX

Pursuant to Appellant's statement under Section 2, this Appeal Brief is not accompanied by any copies of decisions.